

What is claimed is:

1. An amplifier comprising:

a first input for a first at least two input signals having mutually distinct wavelengths,

a first output for a first at least two output signals, the first at least two output signals having said mutually distinct wavelengths,

a first circulator including an input port coupled to the first input, an output port coupled to the first output, and an intermediate port coupled to a first end of a selective reflection circuit, and,

a second circulator including an intermediate port coupled to a second end of the selective reflection circuit, an output port coupled to a first selective splitter, and an input port coupled to a second selective splitter, wherein the first selective splitter and the second selective splitter are centered about a first selected wavelength amongst the mutually distinct wavelengths.

2. An amplifier according to claim 1, wherein the first selective splitter and the second selective splitter include a passband that excludes adjacent non-selected mutually distinct wavelengths.

3. An amplifier according to claim 1, wherein a third selective splitter is connected in cascade with the first selective splitter, and a fourth selective splitter is connected in cascade with the second selective splitter.

4. An amplifier according to claim 3, wherein the third selective splitter and the fourth selective splitter are centered about a second selected wavelength amongst the mutually distinct wavelengths.

5. An amplifier according to claim 1, further comprising an amplifier to couple the first input port to the first input port of the first circulator.

6. An amplifier according to claim 1, further comprising an amplifier to couple the output port of the first circulator to the first output port.
7. An amplifier according to claim 1, wherein the amplifier is an optical amplifier.
8. An amplifier according to claim 1, wherein the at least two input signals include at least two optical signals.
9. An amplifier according to claim 1, wherein the at least two output signals include at least two optical signals.
10. An amplifier according to claim 1, wherein the at least two input signals and the at least two output signals propagate in a first direction.